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Abnormal uterine bleeding: Histopathological patterns of endometrium in elderly

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Abstract

Objective

1. To evaluate endometrial histopathological patterns in elderly women(adults > 40 years of age) with abnormal uterine bleeding.
2. To observe the frequency of various patterns.

Methods: This is a retrospective study with evaluation of the histopathology slides of endometrial samples of 162 patients of > 40 years of age with clinical diagnosis of abnormal uterine bleeding, between 2006 to 2012 were studied.

Results: A total of 162 patients were evaluated during the study period. 85 (52.46%) cases were functional lesions, 74 (45.6%) cases showed organic pathology and 3(1.85%) were reported unsatisfactory sample for evaluation. Maximum number of cases were observed in age group of 41-50 years with proliferative phase (60 cases, 49.18%) being the most common functional lesion and endometrial hyperplasia (37 cases, 30.32%) the most common organic lesion 5 cases (3.14%) of endometrial carcinoma were observed. Other endometrial patterns were secretory phase 20(12.57%), proliferative phase 62(38.99%), disordered proliferative endometrium 1(0.62%), lytic phase 1 (0.62%), irregular shedding 1 (0.62%), chronic endometritis 3 (1.88%), pregnancy related 1 (0.62%), atrophic endometrium 6 (3.77%).

Conclusion: Endometrial hyperplasia which is a precursor of endometrial carcinoma is most common organic lesion in elderly women. Histopathological examination should be done generously in women presenting with AUB especially after the age of 40 years to rule out malignant pathology as accurate analysis of endometrial samplings is the key to effective therapy and optimal outcome.

Keywords: Abnormal uterine bleeding (AUB), Endometrium

Introduction

Abnormal uterine bleeding (AUB) is a term used to describe any type of bleeding per vaginum that does not fall within the normal ranges for amount, frequency, duration and cyclicity.[1,2] Underlying cause of AUB may be functional or organic.[3,4] AUB is one of the most common problems in women of all age groups and accounts for 33% of outpatient referrals in the Gynaecology outpatient department, excluding 69% of referrals in perimenopausal and postmenopausal age group.[1,5-7] It is mandatory to evaluate endometrium in women > 40 years of age,especially post- menopausal women to rule out endometrial carcinoma, as it is the third most common malignancy of the female genital tract with age standardized incidence of rate of 2.9 per 100,000 women.[1,5,8] Endometrial carcinoma can present as AUB in 8 – 50% of cases.[3,9]. Early accurate diagnosis of endometrial hyperplasia which is a precursor lesion can prevent progress to endometrial carcinoma.[1,9]

Objectives

1. To evaluate endometrial histopathological patterns in elderly women(adults > 40 years of age)with abnormal uterine bleeding
2. To observe the frequency of various histopathological patterns

Materials and Methods

This is a retrospective study at department of pathology, Dr.B.R.Ambedkar medical college, Bangalore. The slides of endometrial samples of 162 patients from the year 2006 to 2012 were studied.

Inclusion Criteria: The cases of abnormal uterine bleeding, attending the gynecology OPD with complaints of menorrhagia, metrorrhagia, polymenorrhoea, and polymenorrhagia in the age group >40 years, were selected.

Exclusion Criteria: Patients below 40 years were excluded from the study.

The formalin fixed samples were routinely processed. The paraffin block sections were cut at 4-5µ. Then, the sections were stained by routine haemotoxylin and eosin (H&E) stain. The patients were divided into four age groups viz, 41-50, 51-60, 61-70 and >70 years. Various histopathological patterns including the functional and organic lesions with their frequency in each group were studied.

Results

A total of 162 patients >40 years were evaluated during the study period. 85 (52.46%) cases were functional lesions, 74 (45.6%) cases showed organic pathology and 3 (1.85%) were unsatisfactory sample. The unsatisfactory samples showed scant glands and

stroma, fragmented tissue and large areas of hemorrhage.

The age of the patient ranged from 42 to 83 years. Out of 159 cases, maximum number of cases i.e. 122 (76.72%) were observed in 41-50 years age group with proliferative phase (60 cases, 49.18%) being the most common functional lesion and endometrial hyperplasia (37 cases, 30.32%) the most common organic lesion. Endometrial hyperplasia followed by atrophic Endometrium in 51 – 60 years and 61- 70 years age group which had 9 cases (5.66%). > 70 years age group with 6 cases (3.77%) also showed high prevalence of endometrial hyperplasia i.e. 5 cases (83.33%). 5 cases (3.14%) of endometrial carcinoma, 2 in 41-50 years age groupand 1 each in 51 – 60 years, 61 – 70 years and >70 years age group were observed. In all the age groups, endometrial hyperplasia i.e. 59 cases (37.10%) was the most common organic lesion. Other endometrial patterns were secretory phase 20 (12.57%), proliferative phase 62 (38.99%), disordered proliferative endometrium 1 (0.62%), lytic phase 1 (0.62%), irregular shedding 1 (0.62%), chronic endometritis3 (1.88%), pregnancy related1 (0.62%), atrophic endometrium6 (3.77%).(Table 1)

Table 1: Endometrial patterns in different age groups

	41-50 years	51-60 years	61-70 years	>70 years	Total
Secretory phase	19	1	-	-	20(12.57%)
Proliferative phase	60	2	-	-	62(38.99%)
Disordered proliferative endometrium	-	1	-	-	1(0.62%)
Lytic phase	-	1	-	-	1(0.62%)
Irregular shedding	1	-	-	-	1(0.62%)
Endometrial hyperplasia	37	11	6	5	59(37.10 %)
Chronic endometritis	2	1	-	-	3(1.88%)
Pregnancy related	1	-	-	-	1(0.62%)
Atrophic endometrium	-	4	2	-	6(3.77%)
Endometrial carcinoma	2	1	1	1	5(3.14%)
Total	122 (76.72%)	22 (13.83%)	9 (5.66%)	6 (3.77%)	159(100%)

Discussion

AUB interferes significantly with the quality of life in otherwise healthy women with various distressing symptoms like menorrhagia, polymenorrhoea and metrorrhagia.[1-3] AUB can be due to functional disturbances referred to as dysfunctional uterine bleeding and organic pathologic conditions, such as chronic endometritis, endometrial polyps, endometrial hyperplasia, submucosal leiomyoma or endometrial neoplasm. It is a diagnostic challenge to practicing pathologists.[1,6,7,10] Dilatation and curettage is a useful and cost effective method that is commonly used in developing countries with limited resources, to evaluate causes of AUB and may also form a therapeutic tool.[6,7,10]

Abnormal uterine bleeding can be caused by a pathological process that is not directly related to the uterus such as hyper androgenic anovulation in patients with polycystic ovaries, hypothalamic dysfunction, hyperprolactinemia, hypothyroidism, pituitary disease, premature ovarian failure and iatrogenic causes such as irradiation or chemotherapy. The bleeding could be a sign of an underlying localized condition including benign tumors, malignancy and infection. Endometrial cancer and premalignant atypical hyperplasia are likely causes of abnormal bleeding in peri and postmenopausal bleeding.[11]

The reason for selecting this age group i.e. >40 years is that, women of this age group are in their climacteric period and organic causes are common in this age group.[1,6,7,10] The largest age group of patients with AUB in our study was 41-50 years with 122 cases (76.72%). Other studies also showed maximum number of cases in same age group but with low percentages 48.1%[4], 35.9%[1], 32.1%[12], 30%[13]. An increased number of cases in this age is attributable to the fact that with menopause there are decreased number of ovarian follicles and increased resistance to gonadotrophic stimulation resulting in a low level of estrogen, which cannot keep up the growth of normal

endometrium.[14] Less number of patients seen in the higher age groups may be due to earlier evaluation, detection as well as management of the disease.[6]

Among the organic causes, endometrial hyperplasia i.e. 59 cases (37.10%) is the most common pathology we have encountered with maximum (37 cases) in 41 –50 years age group. Similar studies by Devi et al and Sajitha et al, showed higher 82.45%[1] and lower percent values 56.4%[2]. This is the high risk group for endometrial hyperplasia and endometrial carcinoma. Identification of endometrial hyperplasia is important because they are thought to be precursors of endometrial carcinoma. Endometrial carcinoma was reported in 3.14% of cases which is similar to the studies by Devi et al, Khans et al, Fakhir et al i.e. 2.63%[1], 2%[5] and 3.3%[15] respectively.

In the present study, among the non organic causes of endometrial pattern, the most common pattern was the proliferative endometrium with 38.99% of cases.This finding is similar to a study by Devi et al.[1,5,16] The bleeding in the proliferative phase may be due to anovulatory cycle.[1] Secretory phase endometrium was found in 12.57% of cases. Other studies have reported the similar pattern in 6.53%[1], 38.4%[5], 37.6%[15] cases.

Disordered proliferative endometrium was seen in 0.62% which was very much lower than other studies 4.8%[6] and 5.11%[1]. This pattern lies at one end of the spectrum of proliferative lesions of the endometrium that includes carcinoma at the other end with intervening stages of hyperplasia. It is characterized by the endometrium that does not seem appropriate for any one time in the menstrual cycle, but is not abnormal enough to be considered hyperplastic.[1] Atrophic Endometrium was seen in 3.77% of cases which was similar to other reports 2.4%[6] 3%[5], 5%[15]. Chronic endometritis was diagnosed based on presence of plasma cells was seen in 1.88% cases which was lower than other studies, 3.28%[5] and 5.26%[1]. Detection rate was higher in 41-50 years age group and was similar to other study.[6] Irregular shedding was seen in 0.62% of cases which was lower than other studies, 2.3%[6].

Conclusion

Endometrial sampling by dilatation and curettage is an effective and reliable diagnostic test. Its interpretation can be quite challenging and also may show considerable inter-observer variability. Clinical information regarding age, menstrual history, parity, and imaging studies are important prerequisites in the interpretation of endometrial samples. Dilatation and curettage reveals the endometrial patterns of various forms of AUB and also helps to exclude the presence of any organic pathology. Endometrial hyperplasia which is a precursor lesion of endometrial carcinoma is the most common organic lesion in elderly women. Histopathological examination should be done generously in women presenting with AUB especially after the age of 40 years to rule out premalignant and malignant pathology as accurate analysis of endometrial samplings is a key to plan and individualize the effective therapy, resourceful management and optimal outcome.

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